



**Hillsborough County  
Metropolitan Planning Commission (MPO)**

**Intelligent Transportation System (ITS)  
Master Plan Update**

*Task 1  
ITS Stakeholder Survey Results*

Prepared For  
**Hillsborough County Metropolitan Planning Organization**

Prepared By  
**URS Corporation**

**December 2011**

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## I. TASK PURPOSE AND BACKGROUND

The Hillsborough County Metropolitan Planning Organization’s (MPO) Intelligent Transportation System (ITS) Master Plan was first published and adopted in 2005. The ITS Master Plan has not been updated to reflect changes in the ITS program, technology, inventory of systems and infrastructure, ITS architecture, and current transportation, mobility and safety challenges and issues along existing and planned ITS deployments within the region.

Before expending resources on an update, however, the MPO wants to determine the purpose and usefulness of the Master Plan from the perspective of regional key ITS stakeholders. Therefore, this task conducted a survey of key ITS stakeholders to determine and document local needs, objectives and critical issues. This report serves to document the results from these surveys. Having laid the groundwork, the MPO’s intent is to use the results from this task to determine the next steps in development of an updated ITS Master Plan which will serve as a guide to further development of regional projects and to the MPO for the allocation of Federal and State funding for future ITS projects.

Hillsborough County continues to grow at a significant rate. The 2010 population estimate for Hillsborough County is 1,229,226<sup>1</sup>. This represents a 23% increase over the 2000 Census. Located midway along the west coast of Florida, Hillsborough County has 1,048 square miles of land and 24 square miles of inland water for a total of 1,072 square miles. Incorporated cities are Tampa, Temple Terrace and Plant City. The unincorporated area encompasses 909 square miles, greater than 84 percent of the total county area. Municipalities account for 163 square miles.

Coordination of existing and future ITS technology implementation has been and continues to be critical to the effectiveness of the transportation network, as well as the commerce and prosperity of the area in general.

**Figure I – ITS Master Plan Study Area**



<sup>1</sup> U.S. Census Bureau 2010 County Population Estimates (Hillsborough County 2010 Census Data)

## II. STAKEHOLDER COORDINATION AND SURVEY PROCESS

ITS can be defined as ‘the application of advanced computing and communications technology to the management and operations of the transportation system.’ Surveys were conducted with key transportation and incident/emergency management stakeholders in the region between June and September 2011 to document their needs and perspectives on critical issues facing transportation, safety and mobility within the region.

**Survey Process:** Key stakeholders were identified through the MPO to be included as part of this task. The plan was to interview each of the key stakeholders and to provide a comprehensive survey questionnaire to each of them to complete and return. Depending on their respective roles and responsibilities each stakeholder was directed to only answer questions related more specifically to their area of responsibility and role. However, responses to all survey questions were encouraged by all stakeholders. The survey questionnaire was E-mailed to each stakeholder prior to the interview session with instructions to complete. The idea was that this would provide them some time to look over the questions prior to the interview session. Each stakeholder received a full survey questionnaire (expanded and comprehensive questions), except for neighboring counties and FDOT District 1 which received an abbreviated survey questionnaire since many of the questions were not relevant to them. *Appendix A* has both versions of the survey questionnaire.

The goal was to attempt to schedule and meet face-to-face with each key stakeholder either individually or as a group of related agencies to discuss the task and selected survey questions and gather further detail and information. Several unsuccessful attempts were made to set-up interviews with several of the identified stakeholders as shown in Table 1 which shows the identified key stakeholders, type of response received and interview date (as applicable). E-mail and/or telephone follow-ups were made with each stakeholder to encourage and solicit their response to complete and return the survey questionnaire. Table A-1 in *Appendix A*, show the full list of stakeholders contacted, contact information and the status of interviews and responses received as of the date of this report.

**Table 1: Key ITS Stakeholders, Type of Response Received, Interview Date**

Key ITS Stakeholders	Response Type (Interview, Survey, None)	Interview Date
FDOT District 7	Interview Minutes, Full Survey	June 27, 2011
Hillsborough County Traffic/Public Works Dept.	Full Survey	
City of Tampa Transportation Division	Interview Minutes, Full Survey	June 28, 2011
Plant City Streets & Traffic Division	Interview Minutes, Full Survey	July 25, 2011
Temple Terrace Public Works Dept.	Interview Minutes, Full Survey	June 17, 2011
Tampa-Hillsborough Expressway Authority	Interview Minutes	July 25, 2011
HART	<i>No Response Provided</i>	
Environmental Protection Comm of Hillsborough County	Interview Minutes, Full Survey	June 17, 2011
Aviation Authority	<i>No Response Provided – Prohibited by internal by-laws</i>	
Port Authority	<i>No Response Provided</i>	
Florida Highway Patrol – Troop C	Full Survey	
Hillsborough County Sheriff Office – District 1	Full Survey	
Tampa Police Department	Full Survey	
Plant City Police Department	Full Survey	
Temple Terrace Police Department	Full Survey	

**Table 1: Key ITS Stakeholders, Type of Response Received, Interview Date (Continued)**

Key ITS Stakeholders	Response Type (Interview, Survey, None)	Interview Date
Tampa Fire Rescue	Full Survey	
Hillsborough County Fire Rescue	<i>No Response Provided</i>	
Plant City Fire Rescue	Full Survey	
Temple Terrace Fire Department	Full Survey	
Hillsborough County Hazard Mitigation	<i>No Response Provided</i>	
FDOT District 1	Interview (Teleconf) Minutes , Abbreviated Survey	July 6, 2011
Pasco County Traffic / DOT	Interview (Teleconf) Minutes, Abbreviated Survey	July 6, 2011
Pinellas County Traffic / DOT	Interview (Teleconf) Minutes	July 6, 2011
Polk County Traffic / DOT	Interview (Teleconf) Minutes	July 6, 2011
Manatee County Traffic / DOT	Interview (Teleconf) Minutes, Abbreviated Survey	July 6, 2011

### III. SUMMARY OF STAKEHOLDER SURVEY RESPONSES

Levels of response to the survey questionnaire and participation in interview sessions varied from detailed, to limited, to no response. Possible reasons include; not necessarily the right person responding given the type of questions, their time was limited (“stretched thin”), lack of complete understanding on what was being asked and others. Every effort was made to clearly articulate the purpose of this survey and to provide clear and unambiguous instructions. Overall there was a good response as indicated by the number of interviews conducted and surveys completed. The responses to the stakeholder questions are summarized under two basic question categories. A complete and full list of all stakeholder survey questions along with their respective individual responses are provided in Appendix B.

**Question Category 1:** *Given the following common transportation issues, how would you rank the severity of each issue within your community, region or area of responsibility using the scale provided (1-not a problem, 2-occasional problems, 3-general problem, 4-significant project, 5-very significant problem)?*

**Table 2: Stakeholder Responses to Question Category 1**

Transportation Problems / Issues		Transportation / Traffic / Public Work Agencies					Emergency / Incident Responders Agencies						
		FDOT D7	City of Tampa Traffic	Plant City Traffic	Temple Terrace Traffic	HC Public Works	FHP	Plant City Police	HC Sheriff	Temple Terrace Police	Temple Terrace Fire	Plant City Fire	City of Tampa Police
Travel Conditions (For Highways)	Congestion ( <i>Recurring – rush hour traffic</i> )	5	5	2	2	5	5	2	4	1	3	2	4
	Congestion ( <i>Non-recurring – stalled vehicles</i> )	5	2	2	2	4	3	2		1	2	2	3
	Safety		3	1	2	5	3	2		1	2	3	3
	Unfamiliar Users/Tourists Impact	3	2	4	3	3	3	1		1	2	4	2
	Emergency/Incident Response Time	4	4	3	1	5	3	1	1	1	2	2	3
	Work Zone Safety/Operations	4	2	1	2	4	4	2	3	1	1	2	3
	Coordination – Vehicle-related Incident	2	3	2	3	3	2	2		1	1	2	3
	Coordination -- Hazmat-related Event	2	2	2	2	4	2	1		1	1	2	4
	Exit Ramps off Highway – Back-up onto Freeway	4	3	3	3	5	4	2	5	1	2	3	
Travel Conditions (For Major City Streets)	Congestion ( <i>Recurring – rush hour traffic</i> )	3	5	2	2		5	2	4	2	3	2	4
	Congestion ( <i>Non-recurring – special events, etc.</i> )	2	4	2	2		5	4	3	2	2	2	4
	Safety	2	2	2	2		3	2	1	2	1	2	3
	Unfamiliar Users/Tourists Impact	2	2	4	3		3	3	1	2	2	4	3
	Emergency/Incident Response Time	2	2.5	2	1		3	1	1	2	2	2	4
	Work Zone Safety/Operations	2	2.5	2	2		4	1	1	2	1	2	3
	Coordination – Vehicle-related Incident	2	2	2	2		3	1		1	1	2	3
	Coordination – Interstate Diversion Event	2	2	2	1		5	1		1	1	2	4
	Coordination – Pedestrian/Bicycle-related Incident	3	2	1	3		2	1		2	2	2	5
	On-Ramps to Highways – Back-up onto Arterials	2	2		2		5	1	3	1	2		4



**Table 2: Stakeholder Responses to Question Category 1 (Continued)**

Transportation Problems / Issues		Transportation / Traffic / Public Work Agencies					Emergency / Incident Responders Agencies						
		FDOT D7	City of Tampa Traffic	Plant City Traffic	Temple Terrace Traffic	HC Public Works	FHP	Plant City Police	HC Sherrif	Temple Terrace Police	Temple Terrace Fire	Plant City Fire	City of Tampa Police
Information for Travelers	Lack of Travel Time Information	1	3	3	3	3	1	2	2	1	1	3	2
	Lack of Road Condition/Closure Information	1	3	3	2	5	2	1	2	1	1	3	2
	Lack of Weather Condition Information	1	3	3	2	3	2	1	2	1	1	3	3
	Lack of Adequate Alternate Routes	4	4	3	2	5	4	1	1	1	1	3	3
	Notification of Major Crashes or other Events	1	4	4	2	5	3	2	2	1	2	3	4
	Accurate and Timely Information	2	3	3	2	5	2	2	2	1	2	4	3
Incident Response and Security	Incident Identification	1		3	1	4	2	1	1	1	1	3	3
	Incident Response Time	1		3	1	5	3	1	2	1	1	2	3
	Incident Clearance Time	3	4	3	1	5	3	1	2	1	1	2	3
	Interagency Coordination/Communication	2		5	1	5	3	1	2	1	1	2	3
	Lack of communication or isolation in rural areas	4		5	1	4	2	1	2	1	1	4	2
Transit and Other	Public Transportation (Transit) Accessibility	3		5	2	5	2	1	1	1	1	5	2
	Facility/System Security				1	3	2	1		2	1		2
	Intermodal Transfer Options & Stop Locations	3		5	2	4	3	1		2	1	5	2
	Lack of Roadway (Arterial) Conditions Information	3		5	2	5	2	1		2	1	5	2
	Lack of Roadway (Highway) Conditions Information	3		5	2	5	2	1		1	1	5	2

**Question Category 2:** *From your perspective what are the biggest challenges, problems, obstacles and/or areas affecting the operations, efficiency and/or safety of the transportation system in your area and/or performing and carrying out your duties? Provide any thoughts you may have on possible solutions to address these problems and/or areas.*

**Table 3: Stakeholder Responses to Question Category 2**

Agency	Response
FDOT D7	<p>1 <b>Heavy Traffic Congestion:</b> Recurring and non-recurring congestion occurs daily throughout the D7 freeway management system because of high traffic volumes, inclement weather, limited capacity, and geometric constraints. The concern is that our recurring and non-recurring congestion continues to escalate. ITS initiatives are effective at mitigating recurring and non-recurring congestion, but the lasting benefits of ITS may be jeopardized by limited resources and/or funding. In addition, heavy congestion related to major events is also a major concern with the lack of resource allocation being a major issue.</p>
	<p>2 <b>Lack of Integration, Coordination and/or Optimization of Traffic Signal Systems:</b> Traffic signal systems integration, coordination and/or optimization from one region to the next are greatly diminished because of the disparity of hardware, firmware, and software amongst the various manufacturers/vendors. Possible solutions may include: sole sourcing; further NTCIP standards; and inter-agency cooperative efforts.</p>
	<p>3 <b>Incident Clearance Time:</b> Due to lack of education and cooperation of responding agencies incident / scene clearance time has increased. Responding agencies do not express priority to opening travel lanes which creates secondary incidents and further traffic lane blockage due to lack of lane capacity. There are insufficient interstate median openings to allow for turnarounds which need to be addressed.</p>
	<p>4 <b>Technology and Institutional:</b> Freeway -- Need to address Transportation System Management and Operation (TSM&amp;O), managed lanes, ramp metering, color and arterial DMSs, and signal priority for transit vehicles. As well as increased ITS information sharing to facilitate information to motoring public, smart work zones, and construction work zone information. Arterial – Provide the D7 RTMC with communications to all local agency TMCs. Provide incident plans that are called by the system and specific to location and incident. Funding options – TSM&amp;O funding may be placed in the next Federal transportation bill. We need better communication between FDOT and local agencies to discover these types of opportunities.</p>
	<p>5 <b>Interagency Communication and/or Coordination:</b> Need to address / provide communications with all local TMCs including data and video. Compatible radio frequencies that would provide interagency communications is an issue. We have experienced communications problems during major events or emergencies including; Nextel collapse, cellular telephone network overloaded, sporadic cellular telephone coverage. Cross-agency communication procedures are in place providing compatible radios, telephone communications, shared dispatch center operations with law enforcement, and additional procedural plans. We also need to address funding, center-to-center information sharing, competing jurisdictional priorities, incompatible traffic signal controllers/software/firmware, ensuring use of NTCIP compliant hardware, and legal/bureaucratic barriers. We need an overall common communications platform.</p>
	<p>6 <b>Cross-Jurisdictional Signal Control &amp; Timing:</b> We would like to see this capability implemented. Primary obstacles to overcome will be coordination with the various agencies and incompatibility of equipment and software.</p>
	<p>7 <b>Incident Management Process:</b> Unnecessary impediment of traffic flow/travel lanes by emergency first responders, lack of exiting diversion routes for interstates, capacity for evacuations, implementation of one-way routes, agency coordination and lack of clear authority. Possible solution methodology – active participation through traffic incident management meetings among all key stakeholder agencies.</p>
TPT	<p>1 <b>Heavy Traffic Congestion:</b> Particularly at I-275 SB - I-4 Interchange to Westshore, I-275 NB – Airport exit to Dale Mabry -- These segments of the Interstate are very congested. Drivers leave I-275 and use surface streets to avoid the congestion; this in turn creates traffic problems on surface arterials (Gandy, Ashley, Kennedy, etc.). Only viable solution appears to be to finish widening the Interstate. Also we need to address excess volume / heavy congestion during major events.</p>

Agency	Response
TPT	<p>2 <b>Traffic Queuing Concerns:</b> Of particular concern is the traffic back-up onto Dale Mabry from El Prado to Kennedy – This is a 4 lane undivided roadway: Any left turning vehicle causes a severe reduction in capacity. Increases in travel time, congestion, weaving, and accidents. Needs to be a minimum of 6 lanes. If this is not possible, then at least provide a divided section with left turn bays.</p>
	<p>3 <b>Interagency Communication and/or Coordination:</b> Need more shared information. Currently FDOT will not allow general use of their CCTV network. There is a need to share input into future communications installation projects, funding for installation and maintenance of ITS facilities. Recommend that FDOT allows some sort of monitoring, access and control of their video.</p>
	<p>4 <b>Cross-Jurisdictional Signal Control &amp; Timing:</b> We would be open to this, but for implementation of existing timing plans only. No timing changes or database access would be allowed.</p>
	<p>5 <b>Incident Clearance Time:</b> Emergency responders do not clear incidents quickly enough, particularly when there is a fatality. We have tried to partner with the traffic and maintenance staff to solve these problems with no final solution/change.</p>
	<p>6 <b>Route Diversion and Coordination:</b> The main obstacle that hinders optimal performance and operations is the lack of capacity on diversion routes.</p>
PCT	<p>1 <b>Traffic and Incident Management:</b> Need an optimal system to manage and control traffic as a result of accidents on I-4 that cause traffic to be re-routed through Plant City on US-92 from Forbes Rd to County line (E or W). We need accurate information (i.e., DMS, etc.) to tell the motorist at what point it is best to return back to I-4</p>
	<p>2 <b>Information Dissemination to Travelers:</b> Strawberry Festival for example brings 100,000 to 200,000 travelers to our community causing heavy congestion on I-4, US-92 and local streets. Off-system DMSs and other ITS solutions could be used to give instant information to help relieve congestion and increase safety.</p>
	<p>3 <b>Emergency Evacuation Routes and Restoration:</b> Need severe weather / hurricane evacuation routes in case of a major Cat-4 or 5 storm event that would impact millions of motorists trying to leave the affected area and cause major grid lock on I-4 and local area roads. DMSs throughout the community would inform the public if hotels and/or roads are full. Real-time and accurate information is needed.</p>
	<p>4 <b>Interagency Communications and/or Coordination:</b> Need for better communications and coordination between state and local agencies. During major events or emergencies we have been faced with NO communications. Need for coordination among agencies in regards to shared resources – getting everyone on the same page may prove to be difficult. Also, we need a fiber communications to the EOC and Video Conferencing system.</p>
	<p>5 <b>Video Sharing and Operational Coordination:</b> We need real-time FDOT D7 video of interstates – so we have timely notification of an accident that has occurred on I-4.</p>
	<p>6 <b>Cross-Jurisdictional Signal Control &amp; Timing:</b> We are supportive of this general concept and believe that the obstacles to overcome to make this happen include; communications, software, fiber links, DMS signage to direct the traffic for best results. We would be open to allowing another agency/DOT to have access to our signal system but, only for monitoring at this time. We would also be open for them to implement agreed-upon timing plans after-hours but only after we are in total agreement and same understanding.</p>
	<p>7 <b>Technology and Institutional:</b> Funding is a major issue and what is obtained should go to the weakest link first in order to bring up to standard/consistency to rest of the system. Need to install DMS signs on the US 92 Corridor through Plant City.</p>
PCPD	<p>1 <b>High Crash and Safety:</b> Issues at two-lanes, one-way roadways inside the city limits of Plant City (Hwy 92) -- Have requested in the past, with no results, to have painted straight and turn arrows on the roadways of Reynolds Street, Baker Street and Thonotosassa at the approach of cross intersections. This is an attempt to prevent traffic crashes where a left turn is made from the right lane into the path of a vehicle traveling in the same direction in the left lane. This is a constant problem except at the one intersection that has the painted roadway arrows, Baker Street (92) at Wheeler Street (39).</p>
	<p>2 <b>Route Diversion and Coordination:</b> Major problem occurs when traffic is diverted off the interstate into Plant City. We need quicker notification when I-4 is closed.</p>

Agency	Response	
PCPD	3	<b>Heavy Traffic Congestion:</b> Major traffic, slow speeds and stopped traffic on I-4 at Thonotosassa Road and Forbes Road during major events such as the Florida Strawberry Festival. One of the biggest problems with major events is trying to get motorists to use other exits without the use of large DOT-type DMSs (amber alerts, silver alerts, etc.). Westbound exit at Thonotosassa Road not having a traffic signal. Local and state roadways surrounding the festival grounds are not built for this amount of weekend or any other time traffic.
FHP	1	<b>Incident Response Time:</b> On major highways, the major problem is slow incident response times to large scale incidents as a result of heavy traffic and no ability for traffic to quickly move from the lane of the responding vehicle due to curbs, debris, no shoulders. On limited access highways, the single largest obstruction is the lack of guard rail breaks/openings to allow emergency vehicles to cross over (turnarounds). This requires an emergency vehicle to go past an incident and turn around at an off/on ramp and travel back, which causes traffic, delays medical lifesaving action, and delays officer assistance when an officer needs help. One possible solution is for the DOT during design and maintenance projects to consult with EMS and Law Enforcement to determine their needs for existing structures and infrastructure to determine an overall solution that works for all.
	2	<b>High Crash and Safety:</b> Issues as a result of highway shoulders not being maintained -- When responding to events on the highways and interstates, large amount of debris left on the paved shoulders, delays response due to the emergency vehicles having to dodge or slow down to avoid debris. It causes damage to the emergency vehicles, and if struck, could bounce into the travel lanes and strike other vehicles, opening the Responding Agency to liabilities. Tall grass in the medians and shoulders causes a visual obstruction for responding agencies and also hides dangerous holes, culverts. And other debris from emergency personnel driving into those areas.
	3	<b>Non-optimal Traffic Signal System:</b> During rush hour traffic, on roadways where numerous traffic signals are present, synchronization of the signals is an issue. Progression is non-optimal not allowing traffic to optimally run one way or the other. Currently in most areas, such as SR 60, Dale Mabry, Lakewood, a motorist may stop every mile as they approach a red light. This causes back-ups, congestion, slows emergency vehicle response, and increases driver aggression.
	4	<b>Video Sharing and Operational Coordination:</b> Access to highway cameras through dispatch and on the road would be very useful for our operations. During responses to incidents, lack of direct control/use of cameras, or misunderstanding, or DOT policy may hinder usage of cameras. FHP provides Internet access to the public for crash calls and road blockage incidents. More flexibility for the usage of cameras by FHP during incidents is needed. Maybe set-up separate dedicated small system in FHP Dispatch for their direct use.
	5	<b>Interagency Communications and/or Coordination:</b> Each agency has their own radio system which limits the ability to communicate during large scale events. There are issues with mixed communications involving road clearance and fire response. In addition, long responses, lack of direct communications with other agencies, and lack of understanding of urgency of response by other agencies are all concerns that should be addressed.
	6	<b>Technology and Institutional:</b> Mapping system in communications center to locate/pin-point all local/county and state events..
TTT	1	<b>Unfamiliar Users / Tourist Impact:</b> Unfamiliar users often attempt maneuvers that are unsafe to get on the right course. No U-turns in areas where it's not allowed. Attempting to change lanes at the intersection is a safety issue
	2	<b>Pedestrian/Bicycle /Related Incidents and Safety:</b> Right turn on Red - Drivers fail to yield to pedestrians at signalized crosswalks causing a significant safety issue
	3	<b>Travel Time Information:</b> There is a lack of travel time information. By providing real-time information this could greatly help congestion and decrease travel time through the City by providing a chance for travelers to take alternate routes in cases of congestion or crashes. Deployment of DMSs / ITS can provide this type of support.
	4	<b>Roadway Conditions:</b> Lack of funding to maintain and preserve roadway pavement. Need pavement preservation projects
	5	<b>Cross-Jurisdictional Signal Control &amp; Timing:</b> We feel this is beneficial – however, will need close coordination with communications and maintaining an open minded approach.
TTP	1	<b>Pedestrian/Bicycle /Related Incidents and Safety Concerns:</b> Pedestrian crossing in the downtown redevelopment area is of particular concern -- N 56 <sup>th</sup> Street south of Bullard north of Riverhills. The continued improvements made in the new downtown redevelopment area will possibly create increased foot traffic with new shops and restaurants which may increase pedestrian crossing on N 56 <sup>th</sup> Street and the possible safety issuesPCPD

Agency	Response
TTP	2 <b>Heavy Traffic Congestion:</b> Fowler Ave is of particular concern -- In the morning hours headed westbound between 56 <sup>th</sup> Street and Raintree. Student and staff commute to USF creates traffic backups at the traffic signal at 56 <sup>th</sup> Street and Fowler Ave. This occurs mostly in the morning hours and during special events at the Sun Dome.
	3 <b>Interagency Communications and/or Coordination:</b> Need for improved communications and coordination among state and local agencies. Communications are inadequate -- In the event that land line phone and cell service is disrupted, we are limited to one SATCOM antenna at the City EOC, to provide communications to the County EOC and Field Units.
	4 <b>Video Sharing and Operational Coordination:</b> Real-time video of major arterial roads as well as I-75 would be beneficial.
HCPW	1 <b>High Crash and Safety:</b> High crash rates continue to be an issue and need funding and resources to address problem
	2 <b>Heavy Traffic Congestion:</b> Optimal progression of signal system timings is needed. Signal timing adjustments are needed due to blocked lanes during an incident or emergency. Biggest problem during major events is heavy congestion/delays. Funding and resources are needed to address problem
	3 <b>Technology and Institutional:</b> We need a TMC to manage the various problems and systems. Would like to see enhanced communications, video, detection, incident traffic mitigation and traveler information be provided. We need funding and resources to address adequately. Challenge to overcome is educating policy makers of the benefits of ITS to get top leadership on board for funding purposes. HART, Fire Rescue and FDOT partnerships may make grant funding more available.
	4 <b>Interagency Communications and/or Coordination:</b> Need for improved communications and coordination among state and local agencies. Communications are currently inadequate.
	5 <b>Cross-Jurisdictional Signal Control &amp; Timing:</b> We feel this would be beneficial if done correctly with the biggest obstacle being institutional. We would be open to another agency/DOT gaining access to our signal system – only through detailed agreement and capable of implementing agreed-upon timing plans only per agreement only.
TPD	1 <b>Heavy Traffic Congestion:</b> During major events traffic flow / congestion is a major concern
PCFR	1 <b>Incident Response Time:</b> As a result of limited crossover access along I-4 -- Because of the continuous guard rail in median, emergency responders take longer to get to the incident scene because of the difficulty in getting to it. Sometimes only way is to go to next exit and re-enter road. This is ultimately a major safety issue.
	2 <b>Route Diversion and Coordination:</b> Major accidents along interstates resulting in re-routing traffic through city / cause travelers to exit and travel on east-west city streets / roads (arterials) cause extreme congestion.
	3 <b>Evacuation Routes and Restoration:</b> Hurricane evacuations cause major issues with interstates and major arterials.
	4 <b>Interagency Communications and/or Coordination:</b> We see an overall need for improved communications and coordination among agencies. Finding / confirming incident location in a more efficient way is needed
	5 <b>High Crash and Safety:</b> People do not respect emergency lights or sirens. We have been trying to use Road Rangers and FHP to help solve some of these problems. If ITS can help with faster and more efficient response to incidents, then we are fully supportive and encourage it.
	6 <b>Heavy Traffic Congestion:</b> During major events the biggest traffic problem is people arriving and leaving at the same time.
EPC-HC	1 <b>Provide Mobility Options:</b> Need to be able provide alerts to air pollution advisories placed and announcements to encourage transit or rideshare/telecommute programs (especially during summer months and air quality advisories) on FDOT's DMS system. DMS systems will help keep drivers up to date on areas that may need to be re-routed to avoid delays and thus reduce idling emissions
	2 <b>Lack of Technology and/or Resources:</b> Video could be helpful to correlate areas of poor air quality with areas experiencing high traffic volume. We would like to have access to real-time information and conditions to support our operations and analysis.

Agency	Response
HCSO	1 <b>Video Sharing and Operational Coordination:</b> Access to highway cameras would be useful and beneficial. Not only real-time video, but able to view events that may have occurred in the past 30 days.
	2 <b>Technology and Institutional:</b> Getting signage to relieve Deputies – although we occasionally provide signal, barricades, etc.
	3 <b>Interagency Communications and/or Coordination:</b> We experience system overload during major events or emergencies causing potential major safety issues
	4 <b>Heavy Traffic Congestion:</b> During major events stopped traffic on the interstates is a major problem
	5 <b>Emergency Evacuation Routes and Restoration:</b> We provide support during evacuation events and recommend that ITS be deployed to manage the flow of traffic and/or identify restricted areas.
	6 <b>Information Dissemination to Travelers:</b> Would be beneficial to deploy information dissemination to travelers as this would help management traffic congestion. Deploy DMSs in the proper areas.
	7 <b>Maintenance and Construction Management:</b> Improved communications / technology would provide real-time alerts to system failures.
FDOT D1	1 <b>Heavy Traffic Congestion:</b> Non-recurring incidents that impact the regional roadway networks. The need is to find solutions to quickly and safely restore the roadway network back to pre-incident conditions. The Department has established Traffic Incident Management teams in the area. Need to encourage increased participation from local agencies to discuss methods and coordinate services for quickly and efficiently dealing with non-recurring incidents would help address these issues.
	2 <b>Interagency Communications and/or Coordination:</b> An area that could be improved in regards to coordinating/interfaces with FDOT D7 on transportation/mobility related events or issues is sharing of resources such as CCTV images and access to data across District boundaries
	3 <b>Technology and Institutional:</b> Local agencies appear to be more focused on funding and deploying ITS on a jurisdictional level rather than a regional level
	4 <b>Provide Common System Software Platform:</b> Local agency traffic signal systems operate with different system software's. There may be a need to develop a central ATMS module in SunGuide that would allow inter-operability between the local signal systems and provide center to center connection.
	5 <b>Information Dissemination to Travelers:</b> Provide additional funding so that traffic information collection and dissemination devices could be deployed along local roads and that information could be provided to the local stakeholders to more effectively manage traffic.
	6 <b>Cross-Jurisdictional Signal Control &amp; Timing:</b> We feel that the implementation of cross-jurisdictional signal timing plans for diversion routing is critical to the success of incident management.
Pasco DOT	1 <b>Lack of Operations and Maintenance Funding:</b> The biggest problem is that existing roads and systems continue to be expanded but operations and maintenance continues to be cut every year. If adequate funding is not provided for operations and maintenance it is only a matter of time until these systems fail to be effective. This also impacts the ability for local maintaining agencies to adequately respond to incidents and emergencies. Elected official at all levels need to support and provide adequate funding for operations and maintenance. Funds are provided to expand existing roads and systems but operations and maintenance continue to be cut every year.
	2 <b>Information Dissemination to Travelers:</b> The primary barrier permitting information dissemination / sharing with travelers is a lack of any connection to the FDOT Traffic Management Center
	3 <b>Design Coordination:</b> Consultant coordination with adjoining counties is an issue. No mechanism from the beginning of the project to coordinate with adjacent projects that is to be interfaced to.
Pinellas DOT	1 <b>Lack of Operations and Maintenance Funding:</b> A major issue is inadequate funding for O&M. Without adequate funding systems will start to fail.
	2 <b>Interagency Communications and/or Coordination:</b> Need to be connected to FDOT D7 RTMC – they were suppose to be connected however, the US 19 overpass project being constructed south of Gulf-to-Bay stopped the connectivity effort to FDOT so it's now 2 to 3 years away to re-establish it.

Agency	Response	
Pinellas DOT	3	<p><b>Provide Common System Software Platform:</b> Pinellas has been approached several times about getting SunGuide for control of devices, but they were deterred by the hefty maintenance fee, which could be as much as \$50,000 to \$60,000 per year. They are using third party system software at this point. There should be discussion to determine a better way to approach offering SunGuide to other agencies as ultimately this would be optimal to have everyone working with the same software platform. SunGuide does not have an ATMS module at this time so local agencies do not see the need to push them in that direction.</p>
	4	<p><b>Design Coordination:</b> Consultant coordination with adjoining counties is an issue. Needs to be coordination initially up-front to make sure of compatibility.</p>
Manatee DOT	1	<p><b>Interagency Communications and/or Coordination:</b> There should be increased communications and coordination between local agencies and FDOT districts. Travelers between jurisdictional lines (between counties and cities) do not necessarily know they are commuting between areas</p>
	2	<p><b>Information Dissemination to Travelers:</b> Need more traveler information regarding road construction projects, incidents, etc. Consideration could be made to more Social Networks, web based or smart phone capable technology as well.</p>
	3	<p><b>Technology and Institutional:</b> Funding availability as well as technology and general ITS strategy between agencies. Attention should be made for continuing local arterial roadways between Hillsborough and Manatee counties.</p>

## IV. ASSESSMENT OF STAKEHOLDER SURVEY RESPONSES

Based on the responses from both the interview sessions as well as the written survey questionnaire the following table documents the number of similar responses to each of the primary question categories. This subsequent ranking of responses is simply to provide an initial assessment of stakeholder needs and their perspective on potential local transportation, safety and mobility issues within the region.

### Assessment of Stakeholder Responses to Question Category 1

**Table 4: Stakeholder Overall Ranking of Transportation Issues**

Transportation Problems / Issues		Average Transportation Stakeholder Ranking	Ranking	Average Incident Management Stakeholder Ranking	Ranking	Overall Average	Overall Ranking
Travel Conditions (For Highways)	Congestion ( <i>Recurring – rush hour traffic</i> )	3.8	1	3.0	1	3.3	1
	Congestion ( <i>Non-recurring – stalled vehicles</i> )	3.0	4	2.2	5	2.5	3
	Safety	2.8	6	2.3	3	2.5	5
	Unfamiliar Users/Tourists Impact	3.0	4	2.2	5	2.5	3
	Emergency/Incident Response Time	3.4	3	1.9	7	2.5	5
	Work Zone Safety/Operations	2.6	7	2.3	4	2.4	7
	Coordination – Vehicle-related Incident	2.6	7	1.8	8	2.2	8
	Coordination -- Hazmat-related Event	2.4	9	1.8	8	2.1	9
	Exit Ramps off Highway – Back-up onto Freeway	3.6	2	2.4	2	3.2	2
Travel Conditions (For Major City Streets)	Congestion ( <i>Recurring – rush hour traffic</i> )	3.0	1	3.1	1	3.1	1
	Congestion ( <i>Non-recurring – special events, etc.</i> )	2.5	3	3.1	1	2.9	2
	Safety	2.0	6	2.0	8	2.0	9
	Unfamiliar Users/Tourists Impact	2.8	2	2.6	3	2.6	3
	Emergency/Incident Response Time	1.9	9	2.1	7	2.0	7
	Work Zone Safety/Operations	2.1	5	2.0	8	2.0	7
	Coordination – Vehicle-related Incident	2.0	6	1.8	10	1.9	10
	Coordination – Interstate Diversion Event	1.8	10	2.3	4	2.1	6
	Coordination – Pedestrian/Bicycle-related Incident	2.3	4	2.3	4	2.3	5
On-Ramps to Highways – Back-up onto Arterials	2.0	6	2.3	6	2.4	4	
Information for Travelers	Lack of Travel Time Information	2.6	5	1.7	5	2.1	5
	Lack of Road Condition/Closure Information	2.8	4	1.7	5	2.2	4
	Lack of Weather Condition Information	2.4	6	1.9	4	2.1	5
	Lack of Adequate Alternate Routes	3.6	1	2.0	3	2.7	2
	Notification of Major Crashes or other Events	3.2	2	2.4	1	2.8	1
	Accurate and Timely Information	3.0	3	2.3	2	2.6	3
Incident Response and Security	Incident Identification	2.3	5	1.7	5	1.9	5
	Incident Response Time	2.5	4	1.9	1	2.1	4
	Incident Clearance Time	4.0	1	1.9	1	2.4	2
	Interagency Coordination/Communication	2.6	3	1.9	1	2.4	3
	Lack of communication or isolation in rural areas	3.5	2	1.9	1	2.5	1
Transit and Other	Public Transportation (Transit) Accessibility	3.8	1	1.9	4	2.5	4
	Facility/System Security	1.3	5	1.3	5	1.7	5
	Intermodal Transfer Options & Stop Locations	3.5	4	2.3	1	2.8	1
	Lack of Roadway (Arterial) Conditions Information	3.8	1	2.2	2	2.8	1
	Lack of Roadway (Highway) Conditions Information	3.8	1	2.0	3	2.7	3



**Assessment of Stakeholder Responses to Question Category 2**

**Table 5: Summary of Stakeholder Needs Assessment**

Ranking	Key ITS Stakeholder Need	# Agencies Responding
1	Interagency Communications and/or Coordination	10
2	Heavy Traffic Congestion (recurring and non-recurring)	9
3	Technology and Institutional (includes resources, funding, etc.)	8
4, tie	Cross Jurisdictional Signal Control & Timing	6
4, tie	Information Dissemination to Travelers (include travel time info)	6
5, tie	Video Sharing and Operational Coordination	4
5, tie	Incident Management (IM process, Incident Response, Clearance)	4
5, tie	High Crash and Safety	4
6	Route Diversion and Coordination	3
7, tie	Emergency Evacuation Routes and Restoration	2
7, tie	Pedestrian/Bicycle/Related Incidents and Safety	2
7, tie	Optimization of Traffic Signal System (include integration)	2
7, tie	Common Software Platform	2
7, tie	Lack of O&M Funding	2
7, tie	Design Coordination	2
8, tie	Provide Mobility Options	1
8, tie	Traffic Queuing / Back-ups	1
8, tie	Unfamiliar Users / Tourist Impact	1
8, tie	Maintenance and Construction Management	1
8, tie	Roadway Conditions	1

**V. CONCLUSION – NEXT STEPS**

This primary purpose of this task was to determine how best to enhance the usefulness of the ITS Master Plan from the perspective of the key ITS stakeholders. Based on the outcome / conclusion of this task, the MPO will decide the most effective and beneficial approach to continue the process of updating the ITS Master Plan.

Some possible next steps for consideration by the MPO given the results from this task include; but not limited to:

1. Fill in gaps of key stakeholders that did not respond as part of Task 1
2. Clarify stakeholder responses (as needed) responding during Task 1 to ensure a clear understanding and obtain additional detail on specific issues or needs
3. Obtain and review existing documentation (reports, studies, etc.) coordinating with the Congestion Management Process (CMP) in regards to causes and solutions to congestion issues, etc. and to identify and document any additional regional transportation, safety and mobility needs and issues. Provide specific details on congested routes, high crash locations, etc.
4. Provide detailed inventory of existing, in-progress, & planned ITS and communications systems, infrastructure and projects. This would include existing and planned roadway projects as well. Provide comprehensive system layered maps. Identify any gaps in communications infrastructure between jurisdictional and county boundaries

5. Review and coordinate with Regional ITS Architecture update efforts (as required) to ensure compliance
6. Determine and review potential available ITS and communications technologies, concepts, and solutions based on identified needs and regional issues
7. Identify potential ITS and/or communications projects addressing the ITS Stakeholder needs and regional transportation and mobility issues identified considering input from # 1 to 6 above. Work with key ITS Stakeholders, FDOT and the MPO to further define / develop potential projects that will meet the needs and overall direction, goals and objectives for the region. Develop evaluation criteria to prioritize the identified projects and obtain a consensus among the MPO, FDOT and the various ITS stakeholders
8. Update Regional ITS Master (Implementation) Plan – coordinate with LRTP, CMP, FDOT work program, etc. to ensure consistency and completeness

## **VI. ABBREVIATIONS**

FDOT	Florida Department of Transportation
TPT	City of Tampa Traffic
PCT	Plant City Traffic
PCPD	Plant City Police Department
FHP	Florida Highway Patrol
TTT	Temple Terrace Traffic (Public Works)
TTP	Temple Terrace Police Department
HCPW	Hillsborough County Public Works
TPD	City of Tampa Police Department
PCFR	Plant City Fire & Rescue
EPC – HC	Environmental Protection Commission of Hillsborough County
HCSO	Hillsborough County Sheriff’s Office



*Informational Materials Provided on CD*

**APPENDIX A**

**Table A1 – Key ITS Stakeholder Contact List and Status**

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*Informational Materials Provided on CD*

**APPENDIX B**

**Stakeholder Survey Questionnaires**

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